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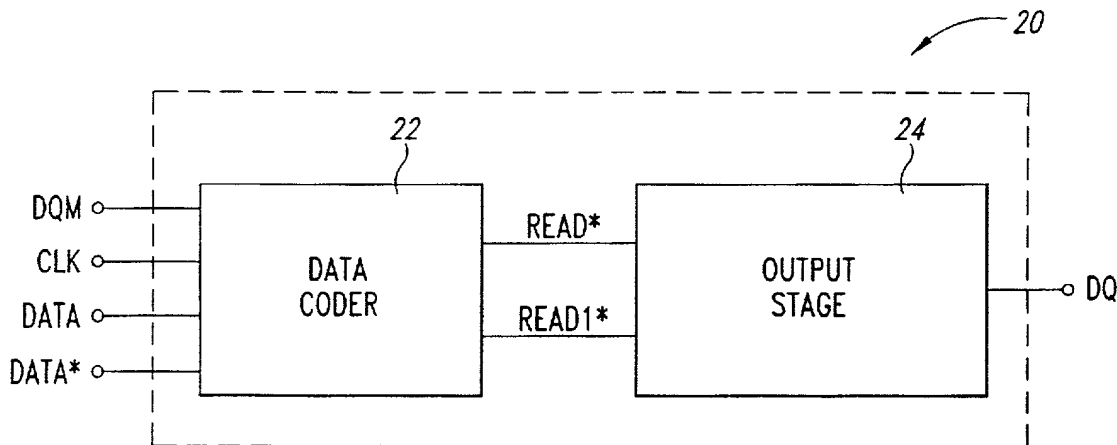
United States Patent [19]**Merritt**[11] **Patent Number:** **5,983,314**[45] **Date of Patent:** **Nov. 9, 1999**[54] **OUTPUT BUFFER HAVING INHERENTLY
PRECISE DATA MASKING**[75] **Inventor:** **Todd A. Merritt, Boise, Id.**[73] **Assignee:** **Micron Technology, Inc., Boise, Id.**[21] **Appl. No.:** **08/898,177**[22] **Filed:** **Jul. 22, 1997**[51] **Int. Cl.⁶** **G06F 13/00; G06F 3/00**[52] **U.S. Cl.** **711/105; 711/104; 710/52;
710/129; 710/130; 710/49; 710/262; 365/120;
365/189.01; 365/189.05; 365/190; 365/233;
365/202**[58] **Field of Search** **365/120, 189.05,
365/190, 233, 189.01, 202; 711/105, 106,
104, 109-110; 710/49, 52, 129-130, 131,
262**[56] **References Cited****U.S. PATENT DOCUMENTS**

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Primary Examiner—John W. Cabeca*Assistant Examiner*—Denise Tran*Attorney, Agent, or Firm*—Seed and Berry LLP[57] **ABSTRACT**

A maskable data output buffer includes an output stage receiving data signals from a data coder. The signals output from the data coder are normally complementary data signals corresponding to complementary data input signals. However, in response to receiving a mask signal, the data coder forces the output signals to be other than complementary. The output stage normally generates a data output signal corresponding to the complementary data input signals. However, when the data input signals are other than complementary, the output of the output stage assumes a high impedance condition. Since the timing of the high impedance condition is determined from the data signals themselves, the timing of the mask operation is inherently properly timed to the output of the data from the data output buffer.

53 Claims, 11 Drawing Sheets

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